

013004

17831 U.S. PTO

Please type a plus (+) sign in this box → ☐

PTO/SB/05 (4/98)

Approved for use through 09/30/2000. OMB 0651-0032

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**UTILITY
PATENT APPLICATION
TRANSMITTAL**

(Only for new non-provisional applications under 37 C.F.R. § 1.53(B))

Attorney Docket No. M419.12-0043

First Inventor or Application Identifier

Benjamin Y.H. Liu et al.

Title

HIGH-PERFORMANCE VAPORIZER FOR LIQUID-PRECURSOR AND
MULTI-LIQUID-PRECURSOR VAPORIZATION IN SEMICONDUCTOR
THIN FILM DEPOSITION

Express Mail Label No.

EV388908754US

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

Address To:

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-14501. ☒ *Fee Transmittal Form e.g., PTO/SB17)
(Submit an original and a duplicate for fee processing)2. ☐ Applicant Claims small entity status3. ☒ Specification [Total Sheets **34**]

- (preferred arrangement set forth below)
- Descriptive title of the Invention)
- Cross References to Related Applications
- Statement Regarding Fed sponsored R & D
- Reference to Microfiche Appendix
- Background of the Invention
- Brief Summary of the Invention
- Brief Description of the Drawings (if filed)
- Detailed Description
- Claim(s)
- Abstract of the Disclosure

4. ☒ Drawing(s) (35 U.S.C. § 113) [Total Sheets **8**]5. Oath or Declaration [Total Sheets **3**]

- a. ☒ Newly executed (original or copy)
- b. ☐ Copy from a prior application (37 C.F.R. § 1.63(d))
(for continuation/divisional with Box 18 completed)
- i. ☐ DELETION OF INVENTOR(S)
Signed statement attached deleting
inventor(s) named in the prior application,
see 37 C.F.R. §§1.63(d)(2) and 1.33(b).

6. ☒ Application Data Sheet. See 37 CFR 1.767. ☐ CD-ROM or CD-R in duplicate, large table of
Computer program (Appendix)8. Nucleotide and/or Amino Acid Sequence Submission
(If applicable, all necessary)

- a. ☐ Computer Readable Copy
- b. Specification Sequence Listing on:
 - i. ☐ CD-ROM or CD-R (2 Copies); or
 - ii. ☐ Paper
- c. ☐ Statement verifying identity of above copies

ACCOMPANYING APPLICATION PARTS

- 9. ☒ Assignment Papers (cover sheet & document(s))
- 10. ☐ 37 C.F.R. § 3.73(b) Statement ☒ Power of Attorney
(when there is an assignee)
- 11. ☐ English Translation Document (if applicable)
- 12. ☐ Information Disclosure ☐ Copies of IDS
Statement (IDS)/PTO – 1449 Citations
- 13. ☐ Preliminary Amendment
- 14. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
- 15. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
- 16. ☐ Nonpublication Request Under 35 USC 122
(b)(2)(B)(i). Applicant must attach form PTO/SB/35
or its equivalent
- 17. ☐ Other:

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an
Application Data Sheet under 37 CFR 1.76:☐ Continuation ☐ Divisional ☐ Continuation –in part (CIP)

of prior application No. _____/

Prior application information:

Examiner _____

Group/Art Unit: _____

FOR CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied
under Box 4b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by
reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.**17. CORRESPONDENCE**☐ Customer Number or Bar Code Label

(Insert Customer No. or Attach bar code label here)

or ☒ Correspondence address below

Name

Nickolas E. Westman
WESTMAN CHAMPLIN & KELLY

Address

Suite 1600 – International Centre
900 South Second Avenue

City

Minneapolis

State

MN

Zip Code

55402-3319

Country

USA

Telephone

(612) 334-3222

Fax

(612) 334-3312

Name (Print/type)

Nickolas E. Westman

Registration No. (Attorney/Agent)

20,147

Signature

Date

1/30/04

FEE TRANSMITTAL		Complete if Known																																																																																																																																			
		Application No.																																																																																																																																			
		Filing Date																																																																																																																																			
		First Named Inventor	Benjamin Y.H. Liu et al.																																																																																																																																		
		Title	HIGH-PERFORMANCE VAPORIZER FOR LIQUID-PRECURSOR AND MULTI-LIQUID-PRECURSOR VAPORIZATION IN SEMICONDUCTOR THIN FILM DEPOSITION																																																																																																																																		
		Group Art Unit																																																																																																																																			
		Examiner Name																																																																																																																																			
Total Amount of Payment \$ 754		Atty. Docket Number	M419.12-0043																																																																																																																																		
METHOD OF PAYMENT (Check One)		FEE CALCULATION (Continued)																																																																																																																																			
1. <input checked="" type="checkbox"/> The Director is hereby authorized to charge any additional fee required under 37 C.F.R. § 1.16 and 1.17, including any petition fee, and credit any over payments to Deposit Account No. <u>23-1123</u> . Westman, Champlin & Kelly, P.A. 2. <input checked="" type="checkbox"/> PTO Form-2038 Enclosed		3. ADDITIONAL FEES <table style="width: 100%; font-size: small;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> <th rowspan="2">Fee Paid</th> </tr> <tr> <th>Code</th> <th>Fee (\$)</th> <th>Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr> <td>1051</td> <td>130</td> <td>2051</td> <td>65</td> <td>Surcharge - Late filing fee or oath</td> <td></td> </tr> <tr> <td>1052</td> <td>50</td> <td>2052</td> <td>25</td> <td>Surcharge - Late provisional Filing Fee or cover sheet</td> <td></td> </tr> <tr> <td>1053</td> <td>130</td> <td>1053</td> <td>130</td> <td>Non-English specification</td> <td></td> </tr> <tr> <td>1812</td> <td>2,520</td> <td>1812</td> <td>2,520</td> <td>For Filing a Request for Reexamination. (ex parte)</td> <td></td> </tr> <tr> <td>1251</td> <td>110</td> <td>2251</td> <td>55</td> <td>Extension for reply within first month</td> <td></td> </tr> <tr> <td>1252</td> <td>420</td> <td>2252</td> <td>210</td> <td>Extension for reply within second month</td> <td></td> </tr> <tr> <td>1253</td> <td>950</td> <td>2253</td> <td>475</td> <td>Extension for reply within third month</td> <td></td> </tr> <tr> <td>1254</td> <td>1,480</td> <td>2254</td> <td>740</td> <td>Extension for reply within fourth month</td> <td></td> </tr> <tr> <td>1255</td> <td>2,010</td> <td>2255</td> <td>1,005</td> <td>Extension for reply within fifth month</td> <td></td> </tr> <tr> <td>1402</td> <td>330</td> <td>2402</td> <td>165</td> <td>Filing a brief in support of an appeal</td> <td></td> </tr> <tr> <td>1403</td> <td>290</td> <td>2403</td> <td>145</td> <td>Request for oral hearing</td> <td></td> </tr> <tr> <td>1814</td> <td>110</td> <td>2814</td> <td>55</td> <td>Terminal Disclaimer Fee</td> <td></td> </tr> <tr> <td>1452</td> <td>110</td> <td>2452</td> <td>55</td> <td>Petition to Revive - unavoidable</td> <td></td> </tr> <tr> <td>1453</td> <td>1,330</td> <td>2453</td> <td>665</td> <td>Petition to Revive - unintentional</td> <td></td> </tr> <tr> <td>1501</td> <td>1,330</td> <td>2501</td> <td>665</td> <td>Utility/Reissue issue fee (inc. advance copies)</td> <td></td> </tr> <tr> <td>1502</td> <td>480</td> <td>2502</td> <td>240</td> <td>Design issue fee (inc. advance copies)</td> <td></td> </tr> <tr> <td>1460</td> <td>130</td> <td>1460</td> <td>130</td> <td>Petitions to the Commissioner</td> <td></td> </tr> <tr> <td>1807</td> <td>50</td> <td>1807</td> <td>50</td> <td>Petitions related to provisional applications</td> <td></td> </tr> <tr> <td>1806</td> <td>180</td> <td>1806</td> <td>180</td> <td>Submission of Information Disclosure Statement</td> <td></td> </tr> <tr> <td>8021</td> <td>40</td> <td>8021</td> <td>40</td> <td>Recording each patent assignment per property (times number of properties)</td> <td>40</td> </tr> </tbody> </table>		Large Entity		Small Entity		Fee Description	Fee Paid	Code	Fee (\$)	Code	Fee (\$)	1051	130	2051	65	Surcharge - Late filing fee or oath		1052	50	2052	25	Surcharge - Late provisional Filing Fee or cover sheet		1053	130	1053	130	Non-English specification		1812	2,520	1812	2,520	For Filing a Request for Reexamination. (ex parte)		1251	110	2251	55	Extension for reply within first month		1252	420	2252	210	Extension for reply within second month		1253	950	2253	475	Extension for reply within third month		1254	1,480	2254	740	Extension for reply within fourth month		1255	2,010	2255	1,005	Extension for reply within fifth month		1402	330	2402	165	Filing a brief in support of an appeal		1403	290	2403	145	Request for oral hearing		1814	110	2814	55	Terminal Disclaimer Fee		1452	110	2452	55	Petition to Revive - unavoidable		1453	1,330	2453	665	Petition to Revive - unintentional		1501	1,330	2501	665	Utility/Reissue issue fee (inc. advance copies)		1502	480	2502	240	Design issue fee (inc. advance copies)		1460	130	1460	130	Petitions to the Commissioner		1807	50	1807	50	Petitions related to provisional applications		1806	180	1806	180	Submission of Information Disclosure Statement		8021	40	8021	40	Recording each patent assignment per property (times number of properties)	40
Large Entity		Small Entity		Fee Description	Fee Paid																																																																																																																																
Code	Fee (\$)	Code	Fee (\$)																																																																																																																																		
1051	130	2051	65	Surcharge - Late filing fee or oath																																																																																																																																	
1052	50	2052	25	Surcharge - Late provisional Filing Fee or cover sheet																																																																																																																																	
1053	130	1053	130	Non-English specification																																																																																																																																	
1812	2,520	1812	2,520	For Filing a Request for Reexamination. (ex parte)																																																																																																																																	
1251	110	2251	55	Extension for reply within first month																																																																																																																																	
1252	420	2252	210	Extension for reply within second month																																																																																																																																	
1253	950	2253	475	Extension for reply within third month																																																																																																																																	
1254	1,480	2254	740	Extension for reply within fourth month																																																																																																																																	
1255	2,010	2255	1,005	Extension for reply within fifth month																																																																																																																																	
1402	330	2402	165	Filing a brief in support of an appeal																																																																																																																																	
1403	290	2403	145	Request for oral hearing																																																																																																																																	
1814	110	2814	55	Terminal Disclaimer Fee																																																																																																																																	
1452	110	2452	55	Petition to Revive - unavoidable																																																																																																																																	
1453	1,330	2453	665	Petition to Revive - unintentional																																																																																																																																	
1501	1,330	2501	665	Utility/Reissue issue fee (inc. advance copies)																																																																																																																																	
1502	480	2502	240	Design issue fee (inc. advance copies)																																																																																																																																	
1460	130	1460	130	Petitions to the Commissioner																																																																																																																																	
1807	50	1807	50	Petitions related to provisional applications																																																																																																																																	
1806	180	1806	180	Submission of Information Disclosure Statement																																																																																																																																	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	40																																																																																																																																
FEE CALCULATION		Other Fee (specify) _____																																																																																																																																			
1. BASIC FILING FEE <table style="width: 100%; font-size: small;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> </tr> <tr> <th>Code</th> <th>Fee (\$)</th> <th>Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr> <td>1001</td> <td>770</td> <td>2001</td> <td>385</td> <td><input checked="" type="checkbox"/> Utility Filing Fee</td> </tr> <tr> <td>1002</td> <td>340</td> <td>2002</td> <td>170</td> <td><input type="checkbox"/> Design Filing Fee</td> </tr> <tr> <td>1004</td> <td>770</td> <td>2004</td> <td>385</td> <td><input type="checkbox"/> Reissue Filing Fee</td> </tr> <tr> <td>1005</td> <td>160</td> <td>2005</td> <td>80</td> <td><input type="checkbox"/> Prov. Filing Fee</td> </tr> </tbody> </table> <p style="text-align: right; margin-top: 10px;">Subtotal (1) \$ 385</p>		Large Entity		Small Entity		Fee Description	Code	Fee (\$)	Code	Fee (\$)	1001	770	2001	385	<input checked="" type="checkbox"/> Utility Filing Fee	1002	340	2002	170	<input type="checkbox"/> Design Filing Fee	1004	770	2004	385	<input type="checkbox"/> Reissue Filing Fee	1005	160	2005	80	<input type="checkbox"/> Prov. Filing Fee																																																																																																							
Large Entity		Small Entity		Fee Description																																																																																																																																	
Code	Fee (\$)	Code	Fee (\$)																																																																																																																																		
1001	770	2001	385	<input checked="" type="checkbox"/> Utility Filing Fee																																																																																																																																	
1002	340	2002	170	<input type="checkbox"/> Design Filing Fee																																																																																																																																	
1004	770	2004	385	<input type="checkbox"/> Reissue Filing Fee																																																																																																																																	
1005	160	2005	80	<input type="checkbox"/> Prov. Filing Fee																																																																																																																																	
2. EXTRA CLAIM FEES <table style="width: 100%; font-size: small;"> <thead> <tr> <th></th> <th>Number Claims</th> <th>Prior**</th> <th>Extra</th> <th>Fee from Below</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr> <td>Total</td> <td>27</td> <td>20</td> <td>7</td> <td>9</td> <td>0</td> </tr> <tr> <td>Indep.</td> <td>5</td> <td>3</td> <td>2</td> <td>43</td> <td>0</td> </tr> </tbody> </table> <p>Multiple Dependent Claims</p> <p>** Insert 3 and 20, or number previously paid if greater; Reissue see below</p> <table style="width: 100%; font-size: small;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Description</th> </tr> <tr> <th>Code</th> <th>Fee (\$)</th> <th>Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr> <td>1202</td> <td>18</td> <td>2202</td> <td>9</td> <td>Claims in excess of 20</td> </tr> <tr> <td>1201</td> <td>86</td> <td>2201</td> <td>43</td> <td>Independent claims in excess of 3</td> </tr> <tr> <td>1203</td> <td>290</td> <td>2203</td> <td>145</td> <td>Multiple Dependent Claims</td> </tr> <tr> <td>1204</td> <td>86</td> <td>2204</td> <td>43</td> <td>Reissue Independent Claims over Original Patent</td> </tr> <tr> <td>1205</td> <td>18</td> <td>2205</td> <td>9</td> <td>Reissue claims in excess of 20 and over original patent</td> </tr> </tbody> </table> <p style="text-align: right; margin-top: 10px;">Subtotal (2) \$ 329</p>			Number Claims	Prior**	Extra	Fee from Below	Fee Paid	Total	27	20	7	9	0	Indep.	5	3	2	43	0	Large Entity		Small Entity		Description	Code	Fee (\$)	Code	Fee (\$)	1202	18	2202	9	Claims in excess of 20	1201	86	2201	43	Independent claims in excess of 3	1203	290	2203	145	Multiple Dependent Claims	1204	86	2204	43	Reissue Independent Claims over Original Patent	1205	18	2205	9	Reissue claims in excess of 20 and over original patent																																																																																
	Number Claims	Prior**	Extra	Fee from Below	Fee Paid																																																																																																																																
Total	27	20	7	9	0																																																																																																																																
Indep.	5	3	2	43	0																																																																																																																																
Large Entity		Small Entity		Description																																																																																																																																	
Code	Fee (\$)	Code	Fee (\$)																																																																																																																																		
1202	18	2202	9	Claims in excess of 20																																																																																																																																	
1201	86	2201	43	Independent claims in excess of 3																																																																																																																																	
1203	290	2203	145	Multiple Dependent Claims																																																																																																																																	
1204	86	2204	43	Reissue Independent Claims over Original Patent																																																																																																																																	
1205	18	2205	9	Reissue claims in excess of 20 and over original patent																																																																																																																																	
		Subtotal (3) \$ 40																																																																																																																																			

Signature Nickolas E. Westman
(Nickolas E. Westman)

Date 1/30/04

Reg. No. 20,147

Deposit Account No. 23-1123